

Greater Kansas City

Clean Air Action Plan

2018 Update



REGIONAL VISION

Greater Kansas City is a region of opportunity. Its robust economy, healthy environment and social capacity support the creativity, diversity and resilience of its people, places and communities.

Adopted by the MARC Board of Directors, May 2018

Formed at the confluence of rivers, trails and trains on the border of two states, Greater Kansas City is a place of interconnection, where people of all backgrounds are welcome and where commerce and ideas flow as freely as the rivers and streams that run through and define it. Our people thrive here, in safe, walkable and well-maintained neighborhoods. We have abundant opportunities for education, and work in fulfilling jobs at businesses that can compete with any in the world. We enjoy, protect and preserve our region's natural beauty. We care for our neighbors and our communities. We lead by example. Our region has the strength to not only bounce back from adversity, but bounce forward, confidently, into the future.

REGIONAL GOALS

PEOPLE



SUCCESSFUL
PEOPLE



ENGAGED
PEOPLE



HEALTHY PEOPLE

PLACES



VIBRANT PLACES



CONNECTED
PLACES



GREEN PLACES

COMMUNITIES



STRONG
COMMUNITIES

INTRODUCTION

Clean air is important to public health, economic development and quality of life. Local governments, businesses and residents of the Kansas City region have a long history of working proactively to improve the region's air quality by reducing emissions that form ground-level ozone.

For years, Greater Kansas City has been at risk of violating the ozone standard set by the U.S. Environmental Protection Agency to protect public health. In addition to health impacts, a designation of noncompliance with the ozone standard would trigger increased regulations that could have a negative impact on the regional economy.

Through voluntary actions and emissions-reducing projects, the region has remained in attainment with ozone standards, even as those standards have been lowered, from 85 parts per billion (ppb) in the late 1990s to 70 ppb in 2015.

While business and industry contribute to poor air quality, more than half of all ozone pollution comes from emissions caused by everyday people doing everyday things — driving, mowing, painting and fueling vehicles.

The Clean Air Action Plan, first published in 2005 and updated in 2011, offers community-based, voluntary actions for both businesses and individuals to help keep our air clean. This 2018 update introduces three new action areas and updates two action areas from 2011 with new strategies. The actions and strategies outlined in the plan also align with a larger set of sustainability priorities that guide the region's growth and development.

Like earlier versions, this plan is not meant to be a static document. With guidance from the region's Air Quality Forum, the plan will be updated periodically to help shape the healthiest possible future for the Kansas City region.



STRATEGIES AND ACTION AREAS

2005

The original Clean Air Action Plan, published in 2005, focused on four main strategies to reduce ground-level ozone:

- Reducing diesel emissions.
- Reducing power plant emissions.
- Public education.
- Sustainability.

In the six years following the plan's adoption, innovative and measurable solutions were realized in each strategy area. Hundreds of diesel-operated school buses, trucks and locomotives have been retrofitted with diesel oxidation catalysts and other emission-reducing technologies. Upgrades to KCPL's Iatan, LaCygne and Sibley power plants reduced emissions by more than 70 tons per day. Annual outreach campaigns have introduced residents and employers to simple ways to help keep the region's air clean. Air quality principles have been embedded in the region's long-range transportation plan and other local and regional plans to promote long-term sustainability.

2011

In 2011, local and state partners expanded the Clean Air Action Plan to include new action areas:

- Promoting pedestrian, bike and transit-friendly options in area communities.
- Promoting best practices in native and sustainable landscaping and green infrastructure.
- Promoting green buildings, sustainable site design and improved building codes for local governments.
- Promoting energy-efficiency incentives for homeowners and renters.

Since 2011, the Greater Kansas City region has worked to advance detailed local planning and project development activities that further the creation of vibrant, connected and green places consistent with sustainable communities. Since this update, the Planning Sustainable Places program has funded 55 local projects that improve or expand pedestrian, bike and transit-friendly options and use sustainable site-design principles.

A green infrastructure framework was established in consultation with a wide range of stakeholders, and suitability analyses were completed. From this, a green infrastructure playbook was developed to help communities see how integrated green infrastructure planning can benefit high-value community needs as well as natural resources. Clean Streets principles have been widely adopted in the region, and guidance documents have been created to assist with the diffusion of associated innovations. Also during this period, as part of the ongoing Regional Energy Efficiency and Conservation Strategic Initiative, Green Idea Books elaborating on various energy efficiency improvements for homeowners and renters were distributed. KCPL and Spire developed programs for improving demand side efficiency including a heating and cooling rebate, insulation and air-sealing rebates and bonus incentives for installing a combination of these upgrades. KCPL has also invested in developing solar projects and obtaining wind generated energy to enable large energy consumers to pursue renewable energy goals.

2018

Building on earlier success, the 2018 update to the Clean Air Action Plan adds new strategies for sustainable landscaping and green building actions adopted in 2011 and introduces three new action areas:

- Transportation connectivity.
- Transportation technology.
- Public engagement

These action areas, described in detail in the following pages, will continue to guide air quality improvement efforts over the coming years, working in concert with other regional plans.

Created with input from regional stakeholders, including representatives from local governments, businesses, civic organizations and nonprofit agencies, the Clean Air Action Plan will guide programs, policies and activities to reduce ozone-forming emissions, help the region maintain its compliance with EPA standards, and shape a healthier future for Greater Kansas City.



1

TRANSPORTATION CONNECTIVITY

NEW ACTION AREA

Action: Improve multi-modal linkages of public transportation networks with a stronger emphasis on bike corridor installation and closing the gaps between unconnected transportation networks.

Increasing connections between different modes of travel and across jurisdictional boundaries — connecting public transportation, bike lanes and walking paths — makes it easier to get from place to place without a personal vehicle and fewer vehicles on the road means cleaner air.

Strategy	2016 Baseline	3-year Goal (Basic)	5-year Goal (Mid-Range)	10-year Goal (Stretch)
Expand the network of mobility hubs that serve as the spine of the fixed transit network.*	18	+2 or more	+6 or more	+12 or more
Increase regional bike facility mileage within ½ mile of mobility hubs.*	34	39 (+15%)	43 (+25%)	51 (+50%)
Increase annual transit riders across the RideKC system.	15.9 million	16.2 million (+2%)	16.5 million (+4%)	17.2 million (+8%)
Increase percent of jobs accessible by transit within 60 minutes during peak morning commute times.*	5%	6%	6.5%	7%

** Consistent with planning recommendations in Smart Moves 3.0 Regional Transit Plan and the Integrated Corridor Management Initiative. More information about Smart Moves 3.0, the long-term transit and mobility plan for the Greater Kansas City region, can be found at kcsmartmoves.org.*

For many residents, driving a personal vehicle is the daily activity that contributes the most to air pollution. Reducing the number of cars on the road reduces vehicle emissions, which have a large impact on ozone formation. Overall ridership across all public transit systems in Greater Kansas City has increased by 2.61 percent in the last 10 years, despite year-to-year fluctuations influenced by gas prices and other economic factors. With roughly 25 annual hours of congestion and emissions produced during rush hour per person, there is plenty of room for improvement in transit ridership.

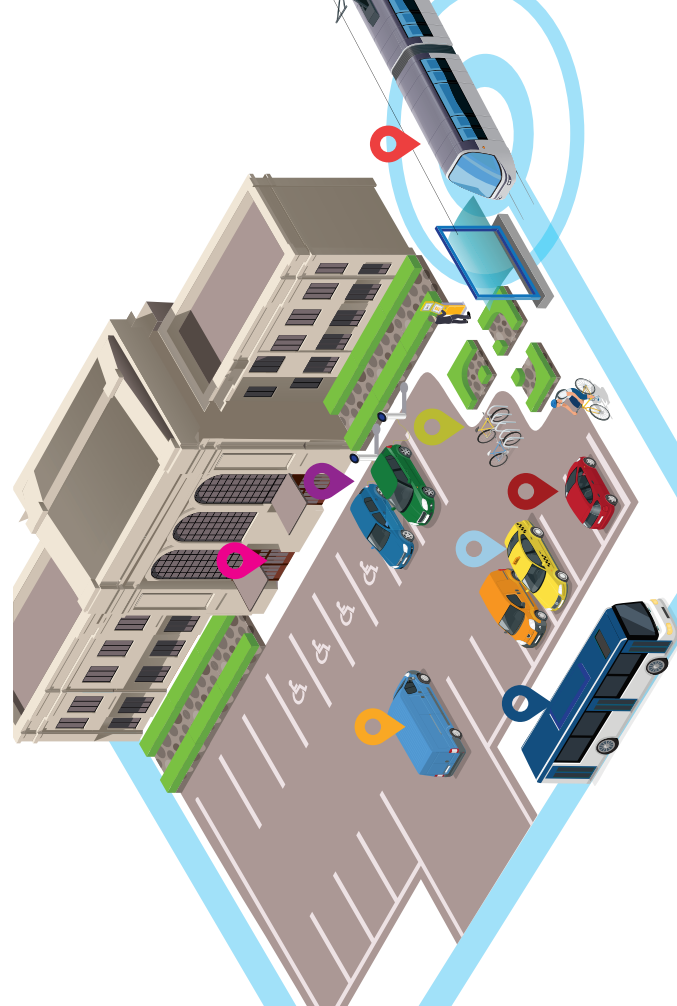
Added Impact:

Expanded hours of operation would allow more workers to use public transit to get to work, increasing transit ridership and reducing emissions even more.

Connecting the region's many vibrant communities through a dense transportation network will increase transportation efficiency and usage. Mobility hubs are critical components of the network. They provide a place of connectivity, where people can seamlessly shift from one mode of transportation — walking, biking, driving or taking transit — to another.

Often, mobility hubs are centers of activity that bring vitality to an area. Expanding the number of hubs throughout the region will not only decrease travel times and emissions, but also boost economic development in surrounding neighborhoods.

Mobility hubs will work in concert with increased bicycle facilities (bike paths, bike lanes, etc.) to reduce traveling by car. As the region's non-car transit system improves, the time it takes for commuters to get to work or other destinations via public transportation will decrease. This will make public transit, walking and biking more attractive methods of travel.



Mobility Hub Characteristics:

- Builds on existing activity and transit centers.
- Connects transit and on-demand services with biking and walking services and routes.
- Integrates technology to pay for, plan and track trips.
- Supported by enhanced amenities and urban design considerations.



2 TRANSPORTATION TECHNOLOGY

NEW ACTION AREA

Action: Apply emerging technologies that will improve the region’s ability to manage traffic congestion and reduce emissions following the ACES strategy: Autonomous, Connected, Electric and Shared vehicles.

Implementing new transportation technologies such as autonomous (self-driving) and connected vehicles could reduce traffic congestion, resulting in lower emissions and improved air quality. To achieve this will require proactive planning, policies that do not limit progress, and installation of infrastructure that complements technological advancement.

Strategy	2016 Baseline	3-year Goal (Basic)	5-year Goal (Mid-Range)	10-year Goal (Stretch)
Continue to increase the use of electric vehicles in the region.	1,837	+7,500	+20,000	+90,000
Encourage greater deployment of ACES vehicles in the region to improve traffic flow.*	—	Conduct pilot study	Promulgate design and regulatory standards for AVs and infrastructure	1,000+ vehicles in use
Expand the number of traffic signals coordinated through Operation Green Light.*	700	750	775	830

*** Consistent with planning goals in Operation Green Light Strategic Plan and the Integrated Corridor Management Initiative. More information about Operation Green Light can be found at marc.org/OGL.**

No one likes sitting in traffic, and the longer vehicles run the more they pollute the air. Gasoline and diesel vehicles give-off ozone-forming emissions while in motion, but they emit even more while idling in traffic.

Transportation technology is changing rapidly. Emerging technologies have the ability to prevent high ozone levels in Metro KC by keeping the traffic flowing.

Two of the technologies listed in the table on page 8 are not new. However, their expansion will result in smoother, cleaner driving.

- Electric vehicles are good for air quality because they emit fewer ozone-forming emissions. Local governments have included electric and hybrid electric vehicles in the most recent Vehicle Metro Bid process, but there is still a lot of room for growth. As the number of plug-in stations grows and the cost of electric vehicles declines, more electric cars will be in use around Kansas City.
- Coordinated traffic signals manage traffic flow to improve drive times and reduce air pollution. As the number of coordinated signals increase, commutes will get shorter and residents will breathe easier.

The ACES strategy encourages the deployment of autonomous, connected, electric and shared vehicles in order to reduce the ozone-forming emissions caused by traditional vehicles. A key co-benefit of ACES vehicles is expected safety improvements with vehicles that share information and act in coordination.

Added Impact:

ACES technology can also increase safety and decrease emissions in the trucking industry, with truck platoons connected via smart technology.

Local governments can invest in expanding traffic synchronization within their internal street network.



Action: Increase the level of public education and outreach related to specific sustainability initiatives.

Public awareness and support are key to efficient implementation of the Clean Air Action Plan. The more the community understands about regional efforts to reduce ground-level ozone, improve options for biking and walking, enhance the public transit system, and implement new transportation technologies, the quicker and more effectively these actions can be accomplished.

Strategy	2016 Baseline	3-year Goal (Basic)	5-year Goal (Mid-Range)	10-year Goal (Stretch)
Increase public awareness about service innovations and technology through smart kiosks along high-capacity transit corridors and at mobility hubs.*	25 kiosks	35 kiosks	45 kiosks	60 kiosks
Increase public awareness of the Operation Green Light program; add a question to the annual public awareness survey to measure progress.*	—	5% awareness	10% awareness	20% awareness
Provide education opportunities on specific sustainability initiatives through courses and workshops offered by the Academy for Sustainable Communities, USGBC and others.	—	750	775	830

* Consistent with planning recommendations in Smart Moves 3.0 and planning goals in Operation Green Light Strategic Plan.

This action emphasizes awareness and educational initiatives that allow the public to learn and take action for cleaner air. Educational opportunities will allow the public to follow progress related to the Clean Air Action Plan and other sustainability initiatives, and provide input to inform the next plan update and help guide future projects and activities.

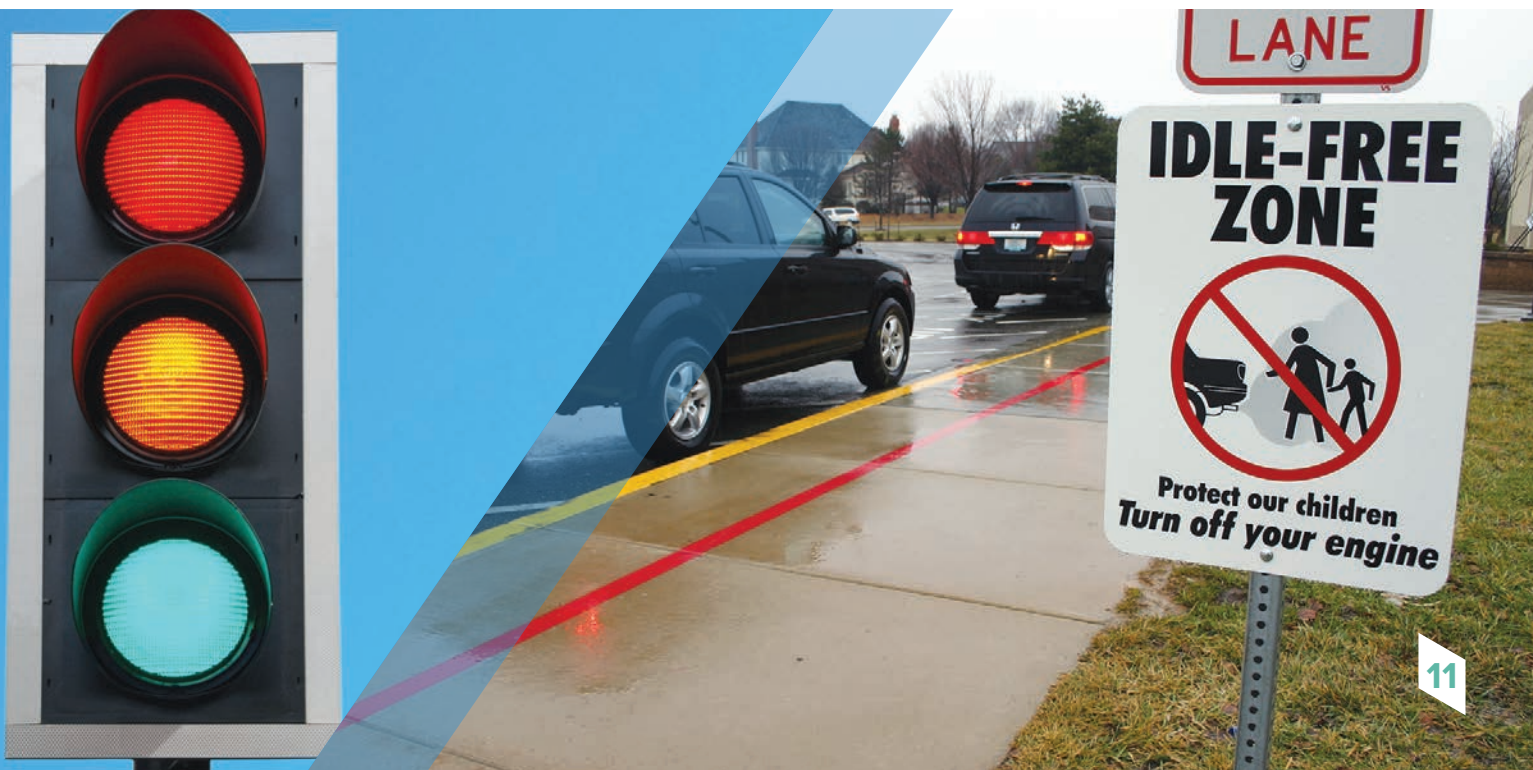
Added Impact:

Signage along corridors with synchronized traffic signals could raise awareness of their impact on air quality

Public outreach will take a variety of forms. “Smart Kiosks” will provide location-specific information within the transit system and at mobility hubs, and can also inform residents about transportation innovations that are helping them commute faster and cleaner.

Marketing efforts to increase awareness of Operation Green Light could help identify barriers that might slow expansion of the system.

Educational messages will be delivered to local elected officials, residents, workplaces and schools to foster awareness and gauge public opinion. More in-depth education will be made available through courses offered by the Academy for Sustainable Communities, the U.S. Green Building Council and other partner agencies.





4

SUSTAINABLE LANDSCAPING

NEW STRATEGY FOR EXISTING ACTION AREA

2011 Action: *Promote native and sustainable landscaping, streetscaping and green infrastructure for governments and residences, and best practices for commercial landscaping.*

The 2011 Clean Air Action Plan update introduced sustainable landscaping as a way to improve air quality. In this update, a new strategy is added to encourage tree planting and installation of more green space.

Strategy	2016 Baseline	3-year Goal (Basic)	5-year Goal (Mid-Range)	10-year Goal (Stretch)
Increase the amount of tree canopy and public green space in activity centers.	21%	30%	35%	40%

This strategy can have a strong positive impact on air quality and health in Greater Kansas City. Planners, developers and others can use data from the Mid-America Regional Council's Natural Resource Inventory and scenario modeling tools such as Envision Tomorrow Plus to evaluate the economic and environmental impacts of land-use and development options. These tools can help identify areas suitable for conservation and restoration of tree canopy and sustainable landscaping.¹

Added Impact:

Local businesses and residents can increase the number of trees and the square feet of green space in yards and lands they manage to compound the benefits of urban vegetation.

¹Nowak, et. al. *Tree and forest effect on air quality and human health in the United States. Journal of Environmental Pollution*, May 2014.

2011 Action: Promote green buildings, sustainable site design and improved building codes for local governments.

The 2011 plan update encouraged local governments to adopt the 2012 International Energy Conservation Code (IECC) for new residential and commercial construction. The International Code Council updated the standards in 2018. The updated strategy below incorporates that change strengthens the 2011 goals.

Strategy	2016 Baseline	3-year Goal (Basic)	5-year Goal (Mid-Range)	10-year Goal (Stretch)
Increase the overall percentage of the regional population covered by 2018 IECC or similar standards for new residential and commercial construction.	—	30%	50%	100%
Increase the percentage of population previously covered by 2012 IECC standards to the updated 2018 standards.		75%	100%	

The IECC provides model codes for energy-efficient buildings that include efficient mechanical, lighting, and power systems. Reducing the amount of energy a home or building uses reduces the amount of fossil fuel consumed, which reduces ozone-forming emissions. Constructing energy efficient homes and businesses builds cleaner air.

Added Impact:

Adopt 2021 IECC standards as soon as they are released.



CONCLUSION

As Greater Kansas City continues to grow and change, regional partners strive to make choices that support its people, its economy, and its environment. The Clean Air Action Plan is one of the many efforts designed to ensure positive growth and sustainability in the Kansas City region.

The Clean Air Action plan — including the original plan and subsequent updates — provides voluntary, clear, actionable steps that will improve air quality in the region. The Mid-America Regional Council and Air Quality Forum will continue to monitor progress of these actions and strategies, updating the plan regularly to address the needs of a vibrant, connected, and sustainable Kansas City region.

GOVERNANCE

ABOUT MARC

The Mid-America Regional Council (MARC) is a nonprofit association of city and county governments and the metropolitan planning organization for the bistate Kansas City region. MARC serves nine counties and 119 cities. MARC provide a forum for the region to work together to advance social, economic and environmental progress.

MARC is funded by federal, state and private grants, local contributions and earned income. A major portion of our budget is passed through to local governments and other agencies for programs and services.

AIR QUALITY FORUM

The Air Quality Forum is a policy committee comprised of local elected officials, air quality and transportation agency personnel, and business and community group representatives. The forum reviews regional air quality issues and makes policy recommendations regarding those issues to the MARC Board of Directors and the states of Kansas and Missouri.

There are 31 seats on the Forum. Local governments occupy 21 seats, four are held by state air and transportation agencies, three by business and economic development concerns, and three are designated for health and environmental groups.





facebook.com/AirQKC



twitter.com/AirQKC



Mid-America Regional Council Air Quality Program
600 Broadway, Suite 200 | Kansas City, MO 64105
www.marc.org/airQ | ph. 816-474-4240